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AUSTRALIAN MODEL RAILWAY ASSOCIATION

For All Who Are Interested in Scale
Model Railroading

-:-:-:-:-:-:-:-:-

-Member Australian Standards Association-

Affiliated with the Australian Association of
Model Societies

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EDITORIAL

Rick Richardson's comprehensive articles on Glues and Glueing are concluded in this issue with a monumental effort and the hope is expressed that all who build or part-build their models will find them a most helpful guide to have on hand to refer back to, especially if a "sticky one" crops up in the course of a modelling project. I am extremely grateful to Rick for his contributions, as I have relied rather heavily on them in past issues.

Our enthusiastic Committeeman and VR Liaison Officer, Jack Chaplin, has contributed a most interesting and instructive screed on operations in the Melbourne Yards which all should find of interest, especially those chaps running layouts. Later on, Jack hopes to write on the Officials (and their respective jobs) 'who keep 'em rolling on the VR'.

Geoff Lormer has concluded his excellent work on 'Overhead', and, if modellers who have never tried overhead before take Geoff's advice and include even a short section they will be, as he says, fascinated by the performance of this much neglected side of model railway practice. Thanks to you, Geoff, for a stout series, and the many sheets of drawings you have supplied.

Howard Groome has supplied a description of the unique railway system which flourished once on the Isle of Wight, but which now, like so many non-paying branch lines, both here and abroad, is now folding up.

Unfortunately, Nev Levin has been unable to forward his article on signalling as applied to crossovers, etc., but I hope to have it later on.

As there are only two sets of drawings this issue we are running them in black and white as there is quite a bit of teeing-up involved in transporting Ern. Mainka's Fordigraph to and fro.

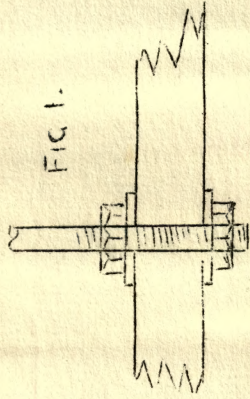


FIG. 1.

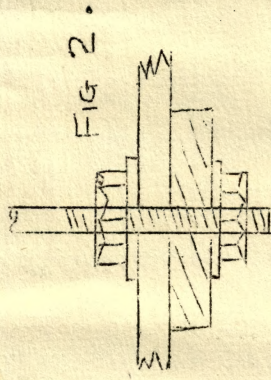


FIG. 2.

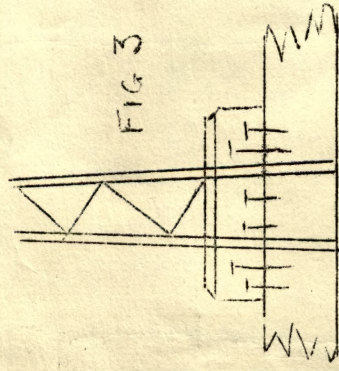


FIG. 3.

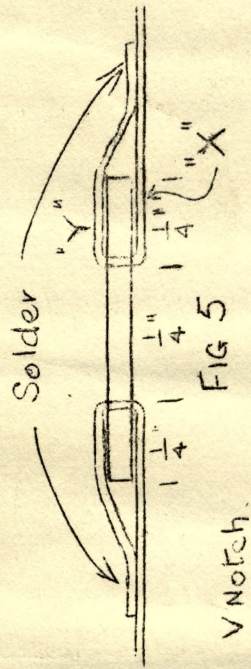


FIG. 5.

V Notch.

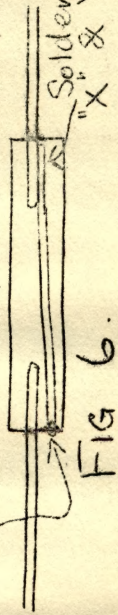


FIG. 6.

Soldered at "X" & "Y" in FIG. 5.

FIG. 7.

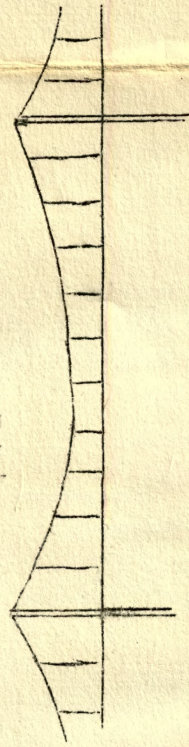
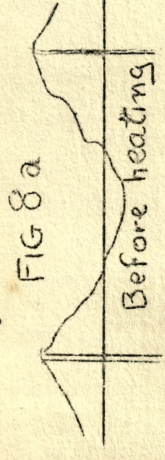
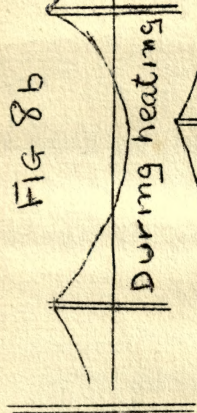


FIG. 8a



Before heating

FIG. 8b

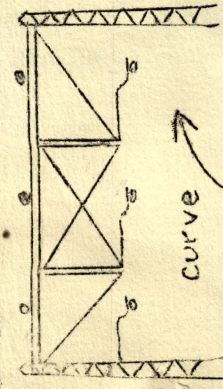


During heating

FIG. 8c

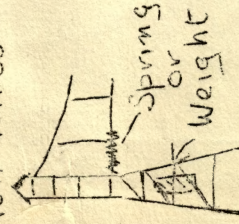
After.

FIG. 9.



curve

New Wires



Spring or Weight

Tension Structure

Curve Pull-off Post (See FIG. 11.)

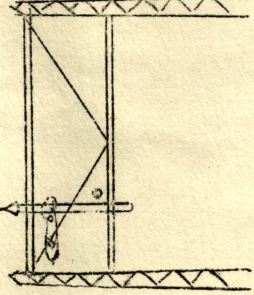


FIG. 10a

FIG. 10b

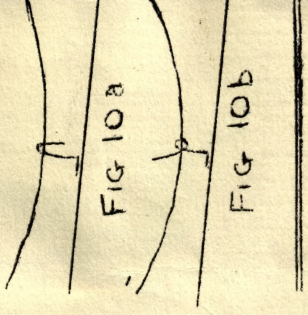
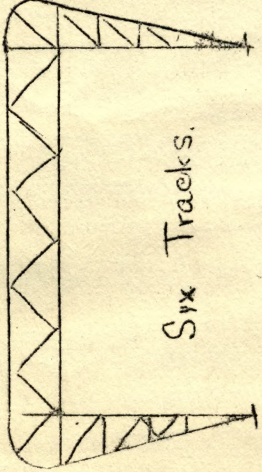
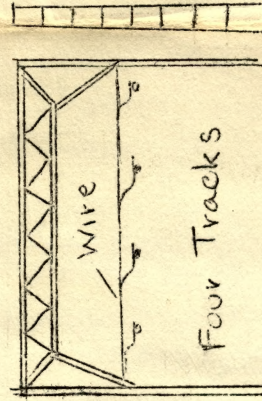


FIG. 11a

FIG. 11b



Six Tracks.



Four Tracks

FIGS. 4

TYPES OF OVERHEAD STRUCTURES (VIC. Rlys.)

Most recent Type (V.R.) "I" Girders.

ators used in full size practice to separate wiring from posts. (Note that "backbone" wires are not insulated from posts, but the pull-off arms attached are insulated from the "backbone".)

THE CATENARY.

The catenary in a model needs only to be ornamental, whereas in fullsize the hanging catenary cable supports the contact wire keeping it horizontal within the limits of gradient, overhead bridges and structures, etc., the sag in the catenary being compensated by the varying lengths of the droppers. Fig 7

In modelling the catenary, which is added after the contact wire has been erected, 21ga. copper wire is used, and an effective way of obtaining the sweeping curve in it is to pass current through it. As it heats ~~up~~ it will assume a smooth curve - you have to be quick on the switch or you have a melted fusewire. Sufficient wire must be provided between the two structures so that, while heated, the wire drops well below the contact wire, but when cool it stops between $1/2"$ and $3/4"$ above it. This process is illustrated in Figs. 8, (a), (b) and (c).

The droppers, of 30ga. copper wire are soldered about every $3"$ to the top of the contact wire. Fig. 9 The tops of the droppers are then bent over the catenary, starting at the centre, and then halving the spaces each side so that the smooth curve is maintained. Fig. 10a. The loops are completed and the excess snipped off. Fig. 10b.

The catenary should be kept vertically above the contact wire and pulled off to follow it, by a wire. This pull-off wire may be attached to a post or, where the catenary is low, it may be tied to the outer end of a pull-off arm. Figs. 11a and b.

Other features of "overhead" which add to the realism of the layout are listed below. Study of these is left to the modeller.

1. Transmission line - usually carried on an extension of one side of a structure.
2. Sectioning switches and feeder wires.
3. Sub-stations with feeder wires and usually a fenced guard around the yard containing transformers, etc.
4. Tie-stations with feeder wires.
5. Power station - to supply the system.
6. Signals mounted on structures.
7. ~~Stubs~~ on adjacent signal posts, etc. to prevent contact with the overhead.
8. Special features involved when the overhead passes under bridges, or through tunnels.

Well, that's "overhead" - it's fascinating and efficient. Don't be surprised if you find yourself tangled up in wires for awhile - practice makes perfect. The important motto for the whole business, is: "Study and use the prototype methods".

-o-o-o-o-o-o-o-

- or Argus the Boy Wonder!!

A member was heard to remark, when talking about the Journal, that there were some things he did not agree with. - - -What were they? - - - There may be 75% of the members who agree with him on this if we only knew, but how are we to know unless YOU tell US straight out what you think of your paper?

We want to make it what you want it, but that is wellnigh impossible as, with our present consist of Committee members, there is not a Piddington amongst them, and I certainly am no thought reader!

Come to light, fellers - You have ideas and opinions - Let us have them, Too!

-o-o-o-o-o-o-o-o-o-

TOSS ASIDE YOUR TINSNIPS - Part Six.
by C. Richardson

(concluded. From page 24, May 1953, issue)

With the Editor's grudging blessing this will be the final instalment of the series which have appeared intermittently in the Journal since publication first commenced. The word 'grudging' is used, not because I think the Editor is breathlessly enamoured with my subject matter, or me as an author, but because I know he finds it difficult to obtain contributions on any subject. "Toss Aside Your Tinsnips", if it has done nothing else, at least has been a sort of standby, a 'breadcrumb in the sausage". Therefore, as an "old" contributor I appeal to you to give Jack the help he deserves by writing something for our Journal; on any subject, for we can all laugh with you about the time Aunt Fanny got mixed up in the 240v. side of your power-pack, if you will only write and tell Jack about it.

As this is the last chapter in a series dealing almost exclusively with wood and cardboard I should like to introduce a personal note about myself which nevertheless has a definite bearing on the subject we have been discussing. The impression seems pretty firmly established in the minds of many that I am an "expert" in the realms of wood and cardboard, and a detractor of the use of any other kind of material, especially metal, for model railway work. This is a bit absurd and quite frankly, "sticks in the craw" with long repetition, for in actual fact, if I am to be classed as an "expert" in any particular aspect of model building (which is doubtful) then my alleged "expertness" is in connection with the design and construction of general models of a multitude of unrelated subjects, but which embody such widely differing materials as wax, fabric, wire, wood, plaster, plastics, rubber, metal and one now "famous" model that contained in its fabric vast quantities of sago - yes! the stuff Mum

puts into puddings! So despite the impression many have gained from the corny title to this series, I do not plug wood as a sweeping substitute for metal. There is a very definite place in model making for literally "all the materials under the sun", and if an explanation of the title is necessary, it stemmed from the fact that so many men seem to think that metal, and only metal, makes a successful railway model, and that there is not only something peculiarly difficult about fixing two pieces of wood together, but that having fixed them successfully, there is something a bit "beginnerish" about the result!

And now to business! At the persistent request of my one convert and faithful fan, Samuel Solder, (a one time "all-metal merchant"), I am including a list of tools, glues, and other basic raw materials which you will require immediately, or eventually. As always throughout this series, I have assumed that you, the reader, have nothing in the way of tools or materials, and in fact that you are an interested bystander to our hobby, but would like to make a start. The list is in two distinct sections, one giving a set of tools, the other a list of miscellaneous materials as a basis for you to work from. If you are sufficiently enthusiastic, (and financial) to sail off and purchase in one glorious orgy all the items appearing on the tool list, plus all the various things in the materials section, you can consider yourself very nicely set up for kitchen-table work, or for that matter, there is sufficient equipment to fit out a modest workshop of the hobby type, especially if you added a heavier vise, a few more carpenter's tools, a greater range of drills, some taps and other miscellaneous luxuries.

If, like our Engineer Editor, you are endowed with a lathe-equipped workshop and the engineering knowhow to go with it, then the contents of this chapter are of no interest to you. But most of us are not engineers, and earn our daily crust in fields far removed from the fascination of micrometers,

surface gauges, lathes and milling machines and all the thousand-and-one facets of that skilled work. Yet using the few simple tools listed here plus some patience and plenty of enthusiasm, it is quite possible to turn out models to equal and sometimes surpass the finest professional work. The amateur working on the kitchen table or out in the rear of the garage has one priceless asset the paid model-builder never has - bags of time! free! To counter this, the man who makes models for money has to surround himself with labour- (which is time) -saving gadgets, usually fairly expensive. He turns up a simple stove-pipe stack for a loco in little more than minutes, but on a £100 lathe. The average amateur can, and often does, make an equally good-looking stack by bending tinsplate or brass sheet into a tube and soldering a fine wire rim to the top edge. But to get a perfectly cylindrical yet correctly tapered tube with the two edges brought together in a perfect and invisible butt-joint could easily eat up three or four hours. Three hours at the lousy return of ten bob an hour is still going to make the finished loco on a time and wage basis sell at something like £350! At that figure you couldn't sell it if it was solid silver!

Our tool list points to the wide scope of activities embraced in model railway construction. Even in this necessarily brief collection we see tools which are only of use in woodworking. A plane a saw, a brace. We have tools that are in the special province of the engineer and metalworker; a tap-wrench, scriber, pin-vise, and luckily for us from a financial viewpoint, there are many tools that are of equal importance and use in our hobby whether we like to work with wood or metal, or both. Handdrill pliers, screwdrivers, piercing saw, square. Notice that certain items on the list are shown in capital letters, for these are the tools you must acquire to get started as they are just about the irreducible minimum as a tool-kit. Some of these are comparatively expensive, the hand-drill, drills and

electric soldering-iron would cost between them the best part of £4, the rest of the list (in capitals) about £3/10/-. You could make do for a time with an ordinary soldering-iron, heating it in a gas jet, but that puts you at a disadvantage from the start, so take the plunge and buy this tool early in your modelling career.

Take your time buying tools. Buy the best obtainable, for you will have them with you for a long, long time, and what could be worse than a pair of pliers whose jaws gape open a full $1/32$ " when supposedly closed. Cheap pliers will strain and do this very quickly, and even fine quality pliers will tend to 'spread' if you use them for cutting hard wire and the like. Use the cutting nippers for such work, they are especially designed for the job and also so made that they will cut close in against a flat surface (nipping the heads off pins as described in part three). The tack hammer is a faithful friend used for all kinds of light hitting work (except driving in tacks - unless your wife borrows it to mend the lino). Get a nicely balanced hammer with a longish handle and head, and a small striking face, for it is often necessary to drive home a fixing in a confined space within the entrails of a model.

The centre-punch needs no comment except to suggest that you purchase the sharpest one you can locate. As they are pretty cheap it would be a good idea to get two and keep one especially for forming "rivets" in metal or card (for latter process see part III, page 8). The 3" engineer's square is the one item on the list where you won't need to buy the best tool available. A "Starrett" square of about this size, guaranteed accurately square within minute limits, will set you back £3 or more. We don't want all that accuracy, so have a look around, you should get a nice job for about 6/- I got one recently for 4/6 which was quite accurate enough for general work. A pin-vise is actually a tiny 3-jaw chuck mounted integrally on the end of a short, hollow, knurled rod.

It's for holding small drills, rods (and even pins, strangely enough) while you work either on the held material, or with it. Buy one, (about 4/6) and its uses will be self evident, but tell the fellow in the shop you want a small one that closes to zero.

A hand-drill is essential, and you won't get too far with a model before needing one. Of the many brands and types on the market, a "Stanley" still seems the best tool. It's by no means the cheapest (about 28/-) but the extra few shillings purchase price will soon be repaid in the drills you don't break due to it's smooth action. Just the same, don't expect to put a No. 60 drill "naked" into the chuck and belt holes through 1/8" mild steel plate. In about 3 seconds flat the No. 60 drill will be in about as many pieces. Put your small drills in the pin-vise, put the pin-vise in the hand-drill and away you go - but gently! and not into heavy M.S. plate, either, without sane practice at holding the drill! Drills! the little wire-like things that make holes! Don't buy cheap drills, they don't even earn half their purchase price. So-called "Jobber's Drills" are frequently sold in little sets of 6 or so in a packet. They may be alright, but often they aren't!! We use our drills for both wood and metal, and we use them a lot, so you might as well get good quality while you are about it! A complete set of Number Drills, 1 to 60, in a proper drill stand would be a fine addition to your kit, but such sets now cost about £6, I think. But the few sizes I have indicated will cover your early needs, and you can fill in with other sizes as required.

The table vise will cost about 10/- or a little less. For "kitchen" use it must have a clamp and thumb screw for fixing to the edge of the table. Hence the name. When buying, see that the jaws meet accurately, and when closed that the top surfaces of the 2 jaws present a flat surface on which

to work metal and wire. A piercing or jeweller's saw (same thing - different name) is essentially a metal-worker's tool which we use on wood, too. It looks something like a diminutive, high-backed hacksaw, but the blades fit into little clamps instead of hooking onto prongs. The blades are about 5" long and sold in 1 dozen lots, in different grades of fineness of cut, or teeth. Fretsaw blades can be fitted to this frame if you are going to cut a lot of wood, and being designed expressly for wood they naturally are more efficient in this material. But for general work the standard metal cutting blades work quite well in wood. Although not included in your "first essentials" list, we might as well discuss the fretsaw frame listed with the "second bite" series of tools. Some of you may be familiar with this tool from the days when it was considered the thing to give young lads one of these and a few bits of dubious looking plywood, the unfortunate youth then proceeding to cut out fanciful and usually useless (and hideous) gadgets that nobody ever used. Still, this occupation kept said lad "off the streets" which is apparently something very naughty. When I was a kid, we musta lived in the wrong kind of streets, curse it!

Well anyway, a fretsaw has a flat metal frame like a deep "U" plus a handle and a couple of clamps to hold the blade in place. It's main virtue is the very deep frame, about 10 or 12 inches. Sooner or later you will want to make a long, fine 12" cut into a sheet of metal or wood, and a piercing saw only "reaches" about 4". Thus the fretsaw. You won't use it much, but on the other hand, they don't cost much, either! Going back to the previously discussed piercing or jeweller's saw, "Eclipse" make a serviceable job for a few shillings, but they also make a similar frame with an adjustable back, something like a hacksaw. They are only a couple of shillings dearer than the plain frame, and well worth it, for if you break a blade near the end, which often happens, the broken blade can be remounted. With an ordinary frame, such a break, even if only 1/2" from the end,

means you must toss away the blade, which could be quite new. If you experience difficulty with piercing saw blades always breaking near the frame clamp, heat the blades dull red just at the very end, and allow to cool. This kills the temper of the steel and lessens the number of breakages at this point. The same firm (Eclipse) make what they call a "Junior hacksaw, for small light work. You will use it for cutting heavier material - rail, brass bar, roughing out loco sideframes - jobs a bit solid for a piercing saw, yet a bit light for an ordinary engineer's hacksaw.

Needle files are indispensable for modelling in metal, and just as handy to have on hand when working on wood. They are made in about 20 odd different shapes and I have listed 6 of these for a start. Unlike most files, the teeth are cut right to the extreme end of the "business end", a very great advantage in "awkward to get at" spots. They are usually about 6" long; 3" of file, or teeth and 3" of handle (they do not have a tang like an ordinary file). For their diminutive size they seem expensive, but are made of fine steel, and will last a long time with reasonable care. If you can get them, buy files imported from Sweden, they are the "tops", but in any case it is unlikely you will buy any type of needle file at a suburban hardware store though the big city tool stores know what they are and stock a good variety of them.

We have already mentioned the electric soldering iron, but you will need a tiny iron for work in those difficult corners, (even on a wooden model odd bits and pieces of metal and wire will require soldering). G.J.Coles chain stores sell a suitable iron affixed to a card along with a bit of solder and a packet of resin flux. Toss the resin away, the solder isn't bad, but the iron is a little beaut. The lot costs about 3 bob I think. We need at least one little screwdriver, and these days of mass production and plastic handles a suitable implement

shouldn't cost more than a shilling. Turner Manuf. Co. in Melb. make a set of 3 screwdrivers to match, with shanks varying from about 2" to 4", the lot in a nickel-plated wall rack. You could well afford this neat little lot as they retail for the magnificent sum of 2/11. We need a scraper for paring away hard glue, paint and excess solder. You can't buy a suitable tool so make one. Buy or otherwise acquire a cheap ice pick, the "sharp instrument" beloved of detective fiction. Get one with a round, knoblike handle, something like a small doorknob, which fits comfortably in the palm of the hand. Cut off the shank about 3" from the handle, heat the remaining end cherry red and flatten it with a hammer, then file to a chisel edge. Put a bit of tin over a gas burner, lay the chisel end on this and as soon as the metal at the tip starts to change to a light straw colour, quench quickly in water. For normal use this is now tempered well enough. Hone the edge on an oilstone, and there's your scraper. I haven't included an oilstone in the first list, so if you don't already have one you'd better put it near the top of your shopping list, and if you buy a plane you'll need to buy an oilstone, the two just naturally go together, along with the hidden nail in the bit of wood you are trying to plane!

A pocket knife! That's up to you, but if you don't possess one and can't borrow your brother's, don't buy one. Instead, have a look at the special model maker's knives now available, with the set of detachable blades. Such knives are no dearer than a good pocket knife because you don't have to pay for the imitation pearl shell, and the bottle-opener, that doesn't work!

Well! there's your "beginner's kit". The rest of the tools on the list will be a big help when you get them, and even then you will still only have a very embryo collection of "sharp or blunt instruments" Just the same, get the lot, and there won't be much you can't undertake. You'll be able to construct

the benchwork, do the necessary electrical wiring, build trestle bridges and construct lineside buildings and townships, lay track, build points and crossings, rolling stock and locomotives and even - dare I mention it? - repair that thingummy the wife's BEEN HARPING ABOUT for so long, and generally amaze your uninitiated friends who came to scoff and remained, to play - trains. The list does not include taps, which in this case are not the nickel-plated things from which Melbourne sometimes gets water, but peculiar looking rodlike objects with a thread out along part of the length. One end is squared and fits into the adjustable tap-wrench listed. Screw the tap into a suitably sized hole previously drilled in metal, and presto! the hole blossoms forth with a thread to take a machine screw, providing you (A) drilled the right sized hole, (B) used the right sized tap, and (C) didn't break off the tap in the hole. When you get to the stage of wanting to tap or thread a hole, I'd suggest you first buy the screws, then the right size and type of tap with drill to suit. The toolseller who supplies you will give you the gen. on what tap and drill to buy for the screws you have bought.

An engineer's scribe is merely a light steel rod formed to a hardened needle point, this being held in a knurled handle. It's use is supposed to be for scribing lines and pop centres on metal, but from personal experience it's got a lot of other uses as well. You could use a large nail sharpened to a point and hardened like the scraper previously mentioned, but it's hardly worth the effort as a scribe doesn't cost very much, and is just about everlasting if you take reasonable care of the point.

Dividers are for drawing circles and arcs on metal, and it's surprising how often you want to do this on a loco. model. Outside calipers are designed to take the outside dimension of any awkward to measure object, for example, the diameter at the

centre of a tapered model loco. boiler, and are also handy to find out if a circular object really is circular, or just looks that way. You will need a carpenter's plane before long, to plane the timber in the railway benchwork, to shape boxcar or carriage roofs, shape floors of models and to ease the jamming draw in old Aunt Fanny's whatnot. A "Stanley" plane will do you proud, though some of the Australian manufacturers are getting good tools on the market these days.

I have only listed one largish file for a start, and it's a smooth cut at that. If, for example, you want to file up the frames of an 'O' ga. loco., you will have to invest in a file designed for heavier, faster cutting as a smooth cut file is more for final finishing work. Engineers, being a very rude, coarse group, give their coarse files rude names. Don't ask me why, but a bastard file is just an engineer's way of stating that it isn't a smooth file. If there is still an "old hand" in the hobby reading me at this stage, I have no doubt he is yelping that our tool list doesn't include a pair of tinsnips. Precisely, my boy! and on purpose, too! If I, by some misfortune, became an instructor in a school for embryo modelmakers (heaven forbid!) I should promptly ban tinsnips from the hallowed precincts. This tool is the direct cause of more mis-made metal models under 2 1/2" ga. than there are Hornby Dublo train sets, and that's a lot. Tinsnips must distort thin metal by the very action of the implement, and judging from the lop-sided, buckled and bowed appearance of many a model I've inspected, the builder presumably added a few of his own cunning little twists of the wrist whilst wielding his beloved tinsnips.

It's argued that tinsnips are quick and a piercing saw slow, which may be so, but there isn't any prize for quickly built models and anyway, by the time the tinsnips wielder has uncurled and planished back to reasonable flatness his bit of tinplate, I'll guarantee to cut a similar piece with a jeweller's

saw and keep it dead flat and undistorted. No doubt the tinsnip brigade will announce proudly that Mel. Thornborough of "Model Railroader" fame, uses tinsnips. Brother! you ain't no Mel Thornborough, and anyway I bet Mr T. doesn't attack loco. cab windows with 'em! like I shudderingly saw an infidel do recently. Even Yours Truly uses tinsnips, last time was 12 months ago when I put up the spouting on my workshop. Anyway, as I'm supposed to be discussing tools, and not misuse of same, I'd better get on with it. If you must have a pair of tinsnips, and ofcourse they are handy for many jobs, then purchase the type which have handles shaped like a pair of scissors. With these you will have much greater control of the tool than with the more usual bar handled plumber's or tinmens' snips. Tinsnips. Bah!

Our second list, embracing materials, must be used merely as a guide to the type and range of "stockpile" the average modelmaker eventually accumulates. Starting at the top of the list we see model aircraft cement as a natural first purchase. This material was discussed at some length in part III, page 10, Feb. 1952, so we'll leave it at that. Butyl (or amyl) acetate has also been previously mentioned, but buy this chemical at a large chemical supply house, not the local chemist. The latter will "slug" you good and hard for a few ounces only. "Glutex" liquid glue is stocked by most suburban hardware stores, as is "Seccotine", which is an animal glue, (for a discussion of this type of glue see part V, May 1953) and is a good product, but more expensive than the locally produced "Glutex". One handy use for "Seccotine" is in the glueing of thin strips of card which are applied to a passenger car side to simulate the panelling or cover strips on a wooden prototype vehicle. Smear a thin film of Seccotine over one side of the card stock you are to use. Allow to dry, then with razor blade and straightedge cut off the required long strips. To affix to the model, merely lick the glued face

of the strips, and apply like a postage stamp. Easy! It doesn't taste the best but must be harmless as I'm still alive.

Don't buy plastic wood in tins, it's cheaper that way admittedly, but usually dries up in the tin and becomes useless. "Bexwood", about the first on the market in Australia, is, I think, still the best.

Buy Baker's Soldering Fluid in bottles, not in tins. It will last you a long time, so long in fact that kept in a tin it is likely to "go off", becoming discoloured and slightly flocculent. Glass bottles have no effect on the solution, so if you can only buy it in a tin put it in a medicine bottle and Label it Clearly, it's poisonous! "Jex" steel wool pads are a boon to modelmakers although about 70% of them don't seem to realize it. Tear off a little tuft, wind it tightly on the tip of your engineer's scriber (I told you it had lots of uses) and you are armed with a fine implement for polishing and smoothing glue, paint or cleared solder in those "awkward-to-get-at" corners. A pad of steel wool is better than glasspaper for rubbing down undercoat when painting a model, as it doesn't clog like glasspaper.

"White" french polish is ordinary brown shellac which has been bleached "white" before dissolving in the methylated spirits base solvent. The french polisher uses it for polishing furniture built of fine timbers which are to be finished in natural colours rather than stained to a uniform mahogany, for example. We use it because being "white" it's practically colourless and doesn't make a part finished model on which it is used look a piebald mess. French polish applied with a brush dries thinly and very quickly to a hard surface, and takes paint very well. Hence our interest in it in model building.

"Lille" pins are little pins, smaller in every way than the common household pin. Usually they are 5/8" long, but occasionally it's possible to buy a

variety known as "small whites" which are only $3/8$ " long. Both sizes are usually made of brass and nickel plated. Many cheaper lines of household pins are plated steel and for general use these are OK. However, if household pins are to be incorporated in a model use nickel plated brass pins to obviate any trouble with subsequent rusting.

The common wire staples as used to clip together office memos, etc. are handy as a sort of "stock size" grabiron or ladder step on many model vehicles in any gauge. On a wooden boxcar, for example, file the ends of the staple to a point and just tap it into place gently with the tack hammer. A vertical row thus fixed into a car side leaves nothing to be desired for a quickly made ladder. Cotter pins, or "split pins" as they are often called are pretty near a standard gadget for use as handrail stanchions. They can be purchased in a variety of sizes and lengths, and the longer size, when straightened out are a very handy source of remarkably fine half-round wire, absolutely a dead-ringer for the beading round loco cab windows and trimmers round doors, roofs, etc. It's a mystery to me why one of our commercial model railway firms hasn't bought a coil or two of this wire from the cotter pin manufacturers and sold it to model builders at so much a foot thereby making everybody happy. Perhaps they haven't thought of it. How about it, AMRA trade members? BPR made a selection of tinplate structural sections which are well worth having on hand, and which can be purchased at most hobby shops. Latterly a new series of somewhat similar material has been available in the form of beautifully made brass angles and straps of various lengths and sizes to suit both 'O' and 'HO/00' models. The rivet-impressed corner angles and flat strapping in this series is a pleasure to look at, and use. Model Dockyard, in Melbourne and Pacemaker Model Engineering in Albury, stock these, and perhaps the Buyers' Guide Rep. could check if there are other retailers.

Keep an old toothbrush on hand, and at the end of each working session on a metal model thoroughly scrub the metal in very hot, clean water with the toothbrush, then shake out the water, and dry. This way you will keep the work bright and clean and prevent a lot of trouble with rust from soldering fluid and the acid perspiration residue in fingerprints. Cleanliness on a model becomes more important in direct relationship to the length of time it takes to build it, for obviously a simple open wagon won't be subject to anything like the handling, filing, soldering and general dirtying-up that a super detail locomotive model will. An old, fairly stiff bristle brush should be used at intervals on wooden models, too, to remove grit and fluff and wood dust before it becomes ingrained into the pores of the wood, tangled up in wet glue, or built into "ungetatable" corners.

An exercise book? Whaffor? Get into the habit of jotting down starting and finishing times of work sessions on individual models. It's a good guide for future reference when you wonder how long "such and such" would take to build. Keep approximate costs of material; you might be able to sell a model one day and it's nice to know just how much you are out of pocket after the deal is done. If you strike a peculiar construction problem, note it down and how you got over the trouble, for your memory may not be as good as you think, and others, (as well as yourself) might like to know how you did this or that. Two or three tapped holes in the "innards" of a loco, may all take the same diameter but slightly different length machine screws. Note in your "good guts" book which screw goes where, it could save you a damaged thread or a lot of exasperating experimenting during future adjustments to the engine. Thus your GC book can become, over the years a fascinating collection of odds and ends of information and a kind of potted history of your model railway doings.

Well, fellers! here's the end of the line for "Toss Aside Your Tinsnips", and despite the title we

SNIPE NOSED PLIERS - 5"
FLAT NOSED PLIERS - 5"
SMOOTH JAWED PLIERS - 5"
DIAGONAL CUTTING NIPPERS - 4"
PIN, BRAD OR TACK HAMMER - 4 ounce
CARPENTER'S CLAW HAMMER - 1 1/4 pounds
ENGINEER'S BALL AND PEAN HAMMER - 6 ounce
ENGINEER'S POCKET SCRIBER
CENTRE PUNCH - get a very sharp one
TRY SQUARE & MITRE - 6" or 8" blades
ENGINEER'S STEEL SQUARE - 3" blade
PIN VISE - 3"
STANLEY HAND DRILL - 1/4" capacity
ADJUSTABLE TAP WRENCH - Moore & Wright or Stanley
HIGH SPEED DRILLS - 1/8" 1/16" 1/32" & Nos. 30, 35
 40, 45, 50, 55, 60.
OUTSIDE SPRING CALIPERS - 3" or 4"
SPRING DIVIDERS - 3" or 4"
12" STEEL RULE } - with one edge graduated in inches
6" " " } inc. 64ths. other in millimetres.
TABLE VISE - with 2" jaws

PAIR SMALL 4" 'G' CLAMPS

ECLIPSE PIERCING SAW OR JEWELLER'S SAW FRAME - with
adjustable back

1 DOZEN FINE CUT PIERCING SAW BLADES

1 " MEDIUM CUT " " "

FRETSAW FRAME - about 12"

1 DOZEN FRETSAW BLADES - fine cut

ECLIPSE COPING SAW

1 DOZEN "GREAT NECK" COPING SAW BLADES

ENGINEER'S HACKSAW - with spare blades, 32 teeth.

ECLIPSE "JUNIOR" HACKSAW - with spare blades

BACK OR TENON SAW - 8" or 10"

SMALL CARPENTER'S HAND SAW - 10 point

CARPENTER'S BRACE - with countersink bit

WOOD CHISELS - 1/8", 1/4", 1/2" and 3/4"

STANLEY NO. 4 SMALL IRON SMOOTHING PLANE

COMBINATION BENCH OILSTONE - coarse & fine sides

OIL CAN WITH SAFETY CAP - fill with SAE 30 oil

FLAT BRASS FILE - 12", with handle

FLAT SMOOTH CUT FILE - 10", with handle

FLAT BASTARD CUT FILE - 10", with handle

HALF-ROUND CABINET RASP - 8", with handle

NEEDLE OR JEWELLER'S FILES - 6, Round, flat, half-
round, square, 3-corner, warding

ELECTRIC SOLDERING IRON - BIRKO D8 x 60watt for HO

SOLDERING IRON - very small

SCREWDRIVER - 4"

" - 8"

SCRAPER - for paring and clearing solder

A STURDY POCKET KNIFE - or EXACTO type knife

BOTTLE IODINE - and plenty of bandages

1 COPY RICHARDSON'S NEW IMPROVED DICTIONARY OF
CUSSWORDS.

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SOME BASIC MATERIALS

1/2 PINT MODEL AIRCRAFT CEMENT

1/2 PINT BUTYL OR AMYL ACETATE OR LACQUER THINNERS

1/2 LB JAR "GLUETEX" LIQUID GLUE

TUBE "PLIOBOND" GOODYEAR CEMENT

TUBE "SECCOTINE" HOUSEHOLD CEMENT

TUBE "BEXWOOD" PLASTIC WOOD
 SMALL BOTTLE "BAKER'S" SOLDERING FLUID
 SMALL TIN "FLUXITE" SOLDERING PASTE.
 1/2 PINT TIN "DULUX" WHITE SURFACER
 1/2 PINT "WHITE" FRENCH POLISH
 1/2 PINT METHYLATED SPIRIT
 1/2 PINT MINERAL TURPENTINE
 PACKET "JEX" STEEL WOOL PADS
 PACKET LILLE PINS, 3/8" or 5/8"
 PACKET HOUSEHOLD PINS, plated brass - about 7/8"
 GROSS PACKET BRASS ROUNDHEAD 1/4" WOODSCREWS
 " " " COUNTERSUNK 1/4" "
 PACKET OF WIRE STAPLES, as used in paper staplers
 ASSORTED SCRAPS & SHEETS OF MILLIMETRE THICK
 AIRCRAFT PLYWOOD
 1/8" and 1/16" THICK SHEET SPRUCE
 ASSORTED SHEETS OF BALSA WOOD IN VARYING THICKNESS
 1/32", 1/16" 1/8", etc.
 BRIGHT, FLAT TINPLATE (as found in "1000" tins of
 imported cigarettes)
 ASSORTED PIECES OF SHEET BRASS IN VARIOUS GAUGES
 " " " NICKEL SILVER " "
 PHOSPHOR BRONZE SPRING WIRE, about 20g. for '0' ga.
 SELECTION GAUGES NICKEL SILVER WIRE
 " " BRIGHT STEEL PIANO WIRE, straight
 COUPLE OF SHEETS OF "BRISTOL BOARD"
 DRY "PINE" WOOD, STRAIGHT GRAINED, KNOT FREE
 2 SHEETS EACH GRADE: '00', '0', '1' & '1-1/2'
 GLASSPAPER
 2 SHEETS FINE 'WET OR DRY' RUBBING DOWN PAPER
 2 " MEDIUM GRADE EMERY CLOTH (80 or 100)
 ASSORTMENT SMALL 'SPLIT PINS' (COTTER PINS)
 SELECTION OF BPR STRUCTURAL TINPLATE SECTIONS
 " " BRASS " & RIVET EMBOSSED STRIPS
 USED SAFETY RAZOR BLADES (BUT NOT RUSTY)
 SHEET OF CLEAR, STIFF CELLULOID
 ODD PIECES OF 1/8" THICK "PERSPEX" SHEET
 AN OLD TOOTHBRUSH
 A CHEAP HORSEHAIR PAINTBRUSH
 CORK SANDPAPER BLOCK
 3' OF 50/50 WIRE SOLDER (NOT RESIN-CORED)
 A LARGE NOTEBOOK OR EXERCISE BOOK
 AS MUCH SPARE TIME AS POSSIBLE

OPERATION OF RAILWAY TRAFFIC IN THE
MELBOURNE YARD
by Jack Chaplin.

This article by Committeeman, Jack Chaplin, who is a Pass. train Shunter at Spencer Street after 'serving his time' all over Nth. Melbourne, on freight, should be of real interest to modellers who are operating their own layouts, as it gives an insight to the prototype sequences observed on the arrival of a goods train, and on layouts where there is a small 'Staff', the appropriate jobs could be delegated so that correct procedure could be observed resulting in improvement in operations on your line. - Ed.

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For some time now our very energetic Editor has asked me to write something for our Journal, so here goes.

Melbourne Yard is one of the biggest Shunting yards in Australia, as all in all it covers approximately an area $4\frac{1}{2} \times 3\frac{3}{4}$ miles. There are five Gravitation Yards with two very large level yards where every vehicle has to be kicked out. During my time there I have worked in every part of the yard.

I think I will start by receiving imaginary notice from Control that a train is arriving outside South Kensington, and we shall follow a few of the vehicles, and also the locos. (it is a double-headed diesel coming) through their respective moves.

Control notifies the Yard Superintendent that B60 and B61 have arrived at South Ken, and are handing same over to Yard, etc. The two locos. have to run the Overland, and as they are scratching for time please put through as soon as possible.

Control also states there is fruit, wool, perishables and motor bodies beside ordinary loading. The Yard Superintendent notifies the Yard Foreman at

the first Gravitation Yard the train will come to, (this is called "The Spion Kop") that the fruit and wool is to come off there for DYNON SIDING & KENSINGTON, and the motorbodies for despatch for unloading at the ELECTRIC CRANE YARDS; this is done because of the size of the vehicles as they are very awkward to handle in the inner yard.

The Yard Foreman at SPION KOP lets his Leading Shunter know what's to be done and then assists the Gang to get things cracking (approx 8 men in gang) The whole train is brought to a stop on the topmost portion of the yard, the engines are cut off and, owing to the braking system the load stops where it is and the engines are sent down No. 1 Road which is the Running Road out of this Yard to the inner road. The vehicles required are released and, by the simple method of releasing the air in their reservoirs, run out onto different other roads, there being 20 Storage Roads in this Yard, and 3 Running Roads. The rest of the trucks are coupled on once more simply by backing the locos onto the train, coupling on and connecting airhoses. She is once again under weigh to a Box and signal right behind the Nth. Melbourne Station; this Box is known as 'the footbridge', and is where the Shunter-in-charge notifies the Superintendent that our train has arrived at the inner yard.

The Super. contacts DUDLEY ST. SIGNAL BOX and also the yard called the Gravitation Yard to see what roads are clear to receive the train; being a big one she will probably need two roads to hold her. When everything is arranged Dudley St. signals the train in onto one of nine receiving roads, and should she be too big she is cut off clear of the bottom end and shoved back up another road, and so our train has arrived.

The locos are cut off and sent up the engine road to NTH. MELB. LOCO. SHEDS. To those who have not seen these Sheds they are about 300yards long with two turntables at the Main Line end of the Shed

I'm afraid I don't know the exact number of locos kept under cover but I'd estimate approximately 40.

The diesels are maintained in their own workshops at the side of this mainshed, once known as the 'X' class Shed as, at one time, all X class locos were kept here as much as possible. There are 4 roads which hold every loco not being used. Beside these roads is the Coalstage which rises to 50' above the other roads; beside the Coalstage are the Ashpits with the Sanding equipment at the opposite end.

But, back to the grind -- we will now continue on with our train. First of all a Leading Shunter who knows every station in Victoria goes up the hill of the Gravitation Yard where we left our train after cutting off the engines. He classifies every vehicle on the rake, as it is now known, and in chalk writes on the end of each truck the road into which it is to be dropped, or loose shunted. In the Gravitation Yard are 44 roads all broken up into 8 sections for easier handling.

From the 9 receiving roads they run into a group of 3 roads known as "the Neck of the Gravi." These 3 roads run into 3 more roads known as "the 3-throw" where the man in charge can send a truck to any of the 44 roads heading off his 9 sets of points.

Let us follow 4 vehicles all one behind the other, they will be in this order: 1 for Geelong, 1 for Mildura, 1 for Dandenong and the last for the perishable shed at Melb. We shall say our train is standing on No. 5 road of the receivers (or the hill). Each one is cut off 7 lengths behind the other. The first has to go into road No. 10, the next road No. 1, the next road No. 37 and the last road No. 24, so you can see that when a rake of say 70 trucks comes onto the receivers, the shunter taking a card of the train has to know what vehicles go where. Now let us follow the Geelong truck. After it has been dropped among many others into No. 10 road it is collected by the pilot

working on the yard called the 'West Yard', where once again it is carded and dropped onto its respective road, onto what now actually is a train in the making. When the load of the loco has been made up, sometimes after many trips to the Gravi, to receive more loading, the loco is then brought out from Nth. Melb. Loco., and attached. The guard then comes along and takes a copy of every truck in triplicate, showing destination, tons and gross tonnage. Whilst he is doing this the train examiners are going along looking for any defects that may need to be seen to, such as brake pipe lines, brake blocks, autos and handbrakes OK. When all is ready, away out goes the truck off our train. This is a small idea of what goes on in the goods yards..

In the passenger yard, similar work is going on. A train arrives - the Spirit for instance - and, once the mails, etc. are emptied out, the work of shunting begins. Being, in this case, the Spirit, the engines are taken off immediately and sent over the pit, whilst a D4 or an F class diesel is attached to the rear and the whole lot is sent around the reversing loop which actually runs around the engine sheds at Nth. Melb. Loco. When it returns, being the Spirit, it has a dining car on and a lounge, which need attention. The train is broken into two sections both of which are put under cover in the car shelter sheds.

In the case of an ordinary passenger arriving, with say a diesel loco on, a BW 'dual' car and the rest BPL coaches with a CE van, quite a lot is involved, although to write it down doesn't take long. A dual car, for instance, has an automatic coupling on one end to attach to the diesel whilst a screw coupling is on the other end to attach to the BPL's which are nearly all screw couplings. After much knee bending and ducking of head the dual car is disconnected and put aside to be run around the reversing loop later on. The BPL's go onto a train being made up and the CE van is placed on the Van road until required for further use.

THE ISLE OF WIGHT RAILWAY.
by Howard Croome.

A completely independent line. How romantic that sounds to the modern British train enthusiast who knows that in the whole of his Island home there is scarcely a place of any consequence on a railway line that a locomotive could not reach, if required. The one exception is the Isle of Wight just off Southampton. This is the only island in the British Isles with a Nationally-owned standard gauge railway system. Even so, the line has a character all of its own. Mainly single track, with bridge, tunnels and even a port, it is a perfect little railway in miniature.

Like many of the mainland systems, it has had a very lively history. Once there were no less than 6 companies operating, and this over 54 miles of track! Often the larger companies worked the traffic of the smaller adding to the confusion. But eventually they merged into 3, and finally 2, companies. These in turn became part of the new Southern Railway in 1923, British Railways taking over in 1948.

In the old days the companies used to buy second-hand rolling stock from mainland companies and the trains were often travelling museums of railway history. However, when the Southern took over and stock became obsolete, it was replaced by standard types developed under either the London and South Western or the London - Brighton and South Coast Railways.

The main passenger locos., of which there are 22 are 0-4-4 T's class 02 from the L.S.W.R. The freight is handled by four 0-6-0 T's class E1 developed by Stroudly on the 'Brighton'. For a short while, too, some of his famous 'terriers' were at work on the island. All locos are painted in the BR standard mixed traffic livery of Red, Cream and Grey lining, on Black. Also, appropriate brass nameplates are fitted. The numbering scheme is separate from that of the main-

land and has the prefix 'W'. The carriages are mainly ex LSWR bogie stock but a few six-wheelers still remain in service. There are two locosheds, at Newport and Ryde. Rolling stock is transferred across the Solent from Southampton on a floating crane. Normally four locos. or carriages can be transferred in this manner.

However, in future this journey will be one way only for BR has decreed the island's railways must close; 30 miles of the original 54 have already been closed and soon only the line from Ryde to Ventnor will remain; for how long is still in the balance.

When the first line was closed in September, 1952, it was 90 years to the month since a railway was inaugurated on the island and many are hoping that the railway system does not close entirely before the century can be celebrated.

-o-o-o-o-o-o-o-

BRANCH FILM NIGHT COMING UP

Club Meeting Night, Friday March 26, is to be a Talkie Film Night, with Full Railway Films interspersed with Documentaries of general interest

The Show will run from 8 to 10.15PM, and so that we can get the ball rolling on time there will be no official business.

Visitors are particularly welcome and we expect the Family along - the nips will love it! - we'd like to see the hall full.

Remember the Night - MARCH 26 - and the address - Club Meeting place - St. Mark's Hall, 272 George Street, FITZROY.

SEE YOU THERE? GOOD!

